DOCUMENT RESUME

ED 129 164 HE 008 252

TITLE An Analysis of the Family Incomes of Full-Time Collegiate Students in New Jersey.
INSTITUTION New Jersey State Dept. of Higher Education, Trenton.
PUB DATE [75]
NOTE 29p.
AVAILABLE FROM State of New Jersey Commission on Financing Postsecondary Education, 20 Nassau Street, Suite 250, Princeton, New Jersey 08540

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS *Educational Opportunities; *Enrollment Influences; Enrollment Rate; *Enrollment Trends; *Equal Education; *Family Income; Higher Education; *Post Secondary Education; Surveys; Tables (Data)
IDENTIFIERS *New Jersey

ABSTRACT

Analysis of the income distribution of students enrolled in New Jersey's colleges and universities was structured to yield results that would help develop policy recommendations, especially in the areas of access and equity. Major findings include: (1) New Jersey families are more affluent than families in the U.S. in general, but families with children attending New Jersey's colleges and universities are less affluent; (2) different collegiate sectors serve different populations as defined by income; (3) upper-division students at Rutgers and the independent institutions are less affluent than lower-division students; (4) New Jersey is slightly ahead as a whole in terms of representation of different income groups in colleges and universities, but lower-income groups are badly underrepresented in all sectors; and (5) New Jersey's diversified institutional sectors seem to be serving the special target populations for which they were created. (Author/KE)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED129164

AN ANALYSIS OF THE FAMILY INCOMES OF FULL-TIME COLLEGIATE STUDENTS IN NEW JERSEY

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

HE 008 252

COMMISSION ON FINANCING POSTSECONDARY EDUCATION
STATE OF NEW JERSEY

A PUBLIC COMMISSION APPOINTED BY THE NEW JERSEY BOARD OF HIGHER EDUCATION

Introduction

In the past few years, this country has accepted the philosophy that, to the degree possible, financial barriers to postsecondary education should be eliminated. This philosophy is translated into planning and operational terms by the goals of open access and equal educational opportunity. Consequently, the income levels of the families of students in different educational sectors should strongly influence policy makers as they consider these goals, as well as issues of equity and student choice.

The Commission on Financing Postsecondary Education undertook a careful analysis of the income distributions of students enrolled in New Jersey's colleges and universities to:

- test the hypotheses that (a) county and state colleges attracted students from the same economic strata and (b) that Rutgers and the Independent colleges competed in the same market place;
- assess the relative capability of upper division students to bear a differential tuition charge without unjustified sacrifice;
- compare New Jersey against national norms for participation in the various sectors of postsecondary education by families in the different income categories;
- examine the relative representativeness of participation of different income groups in the several sectors.

It should be emphasized that this examination was structured to yield results that would help the Commission develop policy recommendations responsive to its charge, particularly in the areas of access and equity.

Highlights of the major findings include the following:

1) While New Jersey families are more affluent than families in the U.S. generally, families with children attending New Jersey's colleges and universities are less affluent.

2) The different collegiate sectors serve different populations as defined by income. In essence the institutions are not competing in the same market place today although changes in pricing (tuition) policy might alter that situation.

3) Contrary to most theories, upper division students at Rutgers and the Independent institutions are less affluent than lower division students. In the State colleges the two groups were approximately equal. These data raise serious questions, from an ability-to-pay perspective, about the viability of differential tuition charges based on an upper division-lower division dichotomy. Additionally, these data call in to question the concept that a significant number of students drop out of college in these sectors during the first two years for financial reasons.

4) While New Jersey is slightly ahead of the United States as a whole in terms of representation of different income groups in colleges and universities in the state, lower income groups are badly under-represented in all sectors. The magnitude of the under-representation is somewhat surprising given the number, geographical dispersion, and relatively low cost of the 2-year colleges.

5) New Jersey's diversified institutional sectors seem to be serving the special target populations for which they were created. While minor aberrations exist, the different sectors seem to be providing services for their target populations as implied in the state's educational planning documents.

While the data and findings set forth in the following pages indicate several significant deficiencies in the existent system and raise a number of policy questions, it appears that New Jersey's system has made dramatic strides in overcoming many of the non-educational barriers that severely limited equal educational opportunity prior to 1970.

Income Distribution

The income distribution of families with children in college is of central importance to the policy-maker concerned with equitably allocating scarce resources in support of those students. An analysis of the appropriate income distributions should reveal whether there are differences in the populations served by different institutional sectors, whether different income groups are appropriately represented in the postsecondary education system, and whether those institutions designated to serve specific objectives, particularly in terms of serving individuals unable to afford the full costs of college, are meeting those objectives. In addition, income distribution analysis is a necessary component in determining to whom the costs and benefits of college attendance accrue within the present system of organization and support. Finally, income distribution information is an essential ingredient in calculating the burden placed on particular groups of students and their families, given the configuration of support available to them.

The results of the Commission on Financing Postsecondary Education staff's income distribution analysis have been displayed to specifically answer four questions about the present system of higher education in New Jersey:

1. How does family income in New Jersey compare with that in the United States as a whole?
2. How do institutional sectors compare with each other in terms of the income levels of families of their student populations?
3. How well represented are different income groups in the different collegiate sectors and the system as a whole?

4. How well are different institutional sectors meeting specific enrollment objectives which are income-related?

For the purpose of subsequent analysis, the staff has designated as focal points the following categorizations for income levels and institutions. For income, five levels have been established:

Less than $ 7,500	-	Low income
$ 7,500 - $11,999	-	Lower middle income
$12,000 - $14,999	-	Middle income
$15,000 - $20,999	-	Upper middle income
More than $21,000	-	High income

Institutions have been divided into sectors as follows:

Public 2-Year	-	County colleges
Public 4-Year	-	State colleges and NJIT
Rutgers	-	All campuses of the State University
Independents	-	All private institutions

Since data of a more continuous form were available, cumulative income curves have been drawn utilizing all available data, not only data for the income groups designated above.

The primary source of income data for New Jersey students was the Student Resource Survey (SRS), a survey of 25,000 randomly selected students enrolled in New Jersey institutions. The survey was conducted jointly by the College Entrance Examination Board and the Commission during the Spring of 1975. The analysis contained in this report utilizes data compiled for full-time students only.

Family Income in New Jersey Compared with Family Income in the United States

In order to establish a context within which to analyze New Jersey students' income distributions, the staff has compared New Jersey data to that for the United States as a whole, both for all families and for families with children enrolled in college. Graph 1 displays the income

distribution of both New Jersey families and all United States families in cumulative form, using Internal Revenue Service data for 1972. While these curves are similar below the $4,000 family income level, beyond that point the New Jersey curve shifts to the right of the United States curve, indicating that New Jersey families tend to be more affluent than all United States families. This relative affluency can be measured by the difference in median incomes of the two populations, $8,600 for New Jersey families as compared to $7,800 for all United States families.

In Graph 2, incomes for families of students attending New Jersey institutions are compared to incomes for all families in the United States with children in college. Again, both cumulative distributions are similar, particularly below the $12,000 level. The United States curve, however, is located entirely to the right of the New Jersey curve and there is a difference in median incomes: $16,000 for the United States as compared to $15,000 for New Jersey. These facts indicate that, in general, families with children in college in the United States are relatively more affluent than families with children attending New Jersey institutions. Thus, Graphs 1 and 2 reveal a certain paradox: while New Jersey families tend to be more affluent than United States families, families with children attending New Jersey institutions tend to be less affluent than all United States families with children in college.

A possible explanation of the paradox is that more affluent New Jersey families send their children out-of-state to attend college,

leaving the state with the responsibility of educating a cohort of students who are relatively less able to pay for their education. This explanation is, in part, justified by the data gathered from a survey of New Jersey students enrolled in colleges outside of the state (again a Student Resource Survey conducted jointly by CEEB and the Commission). New Jersey is the largest exporter of students in the nation, with well over 70,000 students enrolled in out-of-state institutions as compared to some 140,000 full-time students enrolled in New Jersey institutions. The median family income of the out-of-state population is $24,500, a level 63% higher than the median family income of students enrolled in New Jersey colleges.

Institutional Sectors Compared in Terms of Students' Family Income Distribution

In order to answer the second question outlined above, how institutions differ with respect to population served as defined by income, tables have been prepared which compare the income distribution of the four collegiate sectors as defined previously. These sectors differ in several respects, but for the purposes of this analysis a focal point of difference is the tuition and fees charged within a sector. The table below displays the level of tuition and fees charges per FTE on average by institutions in particular sectors for the fiscal year 1974.

Sector:	Public 2-Year	Public 4-Year	Rutgers	Independent
Tuition & Fees[1]:	$480	$751	$831	$2,230

[1] From HEGIS form 2300-4, FTE calculated as all full-time students plus one-third of all part-time students.

Table 1 and Graph 3 display the family income distributions of students attending New Jersey colleges. For the income categories below $12,000 the percentage of students enrolled from those categories in a given sector is inversely related to the tuition and fees level of that sector, implying that less affluent students tend to enroll in colleges which cost less. While the Independent sector enrolls a substantial percentage of its students from the income groups below $12,000 (25.5%), the Public 2-Year sector enrolls nearly half of its students (42.7%) from those income groups. For the highest income group, above $21,000, an opposite relationship is found, with the Independents enrolling over twice as many students as the Public 2-Year institutions from that income group. Students from families with incomes between $12,000 and $21,000 are enrolled as a similar percentage of students in each sector.

These figures tend to indicate that the current pricing policy, based on the relative tuition and fees charged in sectors, is not completely inappropriate from the perspective of the student's ability to pay. It should be noted, though, that while the median income increases by 31% in moving from the lowest to highest tuition and fees sector, the tuition and fees charged increases over 350%. Thus, while more affluent students attend institutions which cost more in terms of tuition and fees, the most affluent students, those attending Independent institutions, can be viewed as paying a much larger proportion of their family's income than the students in other sectors. (If one included the additional costs of room, board, and ancillary expenses, assuming an average of $1,600 for each sector, the total cost of attending each sector is relatively more

proportional to income, as indicated below, although the average student enrolled in the Independent sector still pays a higher proportion of family income to attend.)

Sector:	Public 2-Year	Public 4-Year	Rutgers	Independent
Tuition & Fees plus $1,600:	$2,081	$2,351	$2,431	$3,830
Median Income:	$13,300	$14,200	$15,500	$17,900

Obviously, what is not included in this analysis is the share of costs met by the state at Public institutions, a share which individual students' families do not pay directly, but which is borne by all individuals paying taxes.

Table 1

FULL-TIME STUDENT'S FAMILY INCOME DISTRIBUTIONS, BY INSTITUTIONAL TYPE

Annual Income	Public 2-Year	Public 4-Year	Rutgers	Inde-pendents	All Institutions
Less than $7,500	20.9%	14.9%	12.6%	11.6%	14.3%
$7,500 - $11,999	21.8	21.6	17.5	13.9	18.6
$12,000 - $14,999	16.9	18.7	17.5	14.3	17.1
$15,000 - $20,999	22.0	26.2	27.0	21.7	25.1
More than $21,000	18.5	18.6	25.4	38.5	25.0
	100.1%	100.0%	100.0%	100.0%	100.1%
Median Income	$13,300	$14,200	$15,500	$17,900	$15,000
Approximate Mean Income	$14,058	$14,995	$16,388	$18,468	$16,051

Source: N.J. SRS 1975

It is apparent that, in fact, the different sectors serve different populations as defined by income. The cumulative income distributions displayed in Graph 3 are clearly different and the median incomes of the sectors, appearing in Table 1, differ substantially, with a minimum difference of $900 and a maximum difference of $4,600 between pairs of sectors. When t-tests of the difference of the mean incomes of sector pairs were carried out, significant differences were found at the .01 level between all possible pairs as shown in Table 2. These tests indicate that the population from which students are drawn by sectors have different mean incomes.

What is not clear, however, is the cause and effect relationship between a student's family affluence and that student's choice of college sector. In fact, a statistical test of the relationship between income group and enrollment in a particular collegiate sector indicated a significant but weak association.[1]

Since financing patterns for higher education have sometimes reflected a difference in both the costs and the benefits accruing for lower and upper division students[2], the staff also investigated the income distributions of both lower and upper division students in the different sectors.

---

[1] A Chi Square test was significant at the .001 level with Cramer's $\emptyset$ = .12. The Chi Square test is used to test the significance of a relationship between two variables when data are expressed in terms of frequencies of joint occurrence. The computation compares actual frequencies with frequencies expected if the two variables were independent. The level of significance indicates the probability that any association found between variables is not caused by change. Cramer's $\emptyset$ is a statistic which measures the strength of association. The closer this statistic is to 1, the more closely associated the two variables tend to be.

[2] Lower division students are defined as those in the freshman and sophomore classes while upper division students are those in the junior and senior classes.

Table 2

t-Test[1] Results for Inter-Sectoral Comparison,

All Full-Time Students

	Public 2-Year	Public 4-Year	Rutgers	Independents
Public 2-Year	0	2.8489	7.6904	11.6981
Public 4-Year		0	5.3483	10.1251
Rutgers			0	6.5858
Approximate Mean Income	$14,058	$14,995	$16,388	$18,468

[1] A t-test is a statistical computation which compares the means of two samples and determines whether differences between these means reflect differences in the means of populations from which the samples were drawn. The level of significance is a measure of the extent to which such differences are random. The lower the level of significance, the greater the probability that those differences are not simply random. For example, the t value for the difference between the mean family incomes of a sample of Public 2-Year students and Public 4-Year students is 2.8489, a value greater than the t value of 2.576 associated with a .01 level of significance. Therefore, the chances are somewhat less than 1 out of 100 that the sample difference does not reflect a difference in population means. More directly, this indicates that there is a greater than 99% chance that the population means are different from each other. Below is a table which pairs t levels with corresponding levels of significance.

Level of Significance		t value
.05	=	1.960
.02	=	2.326
.01	=	2.576
.001	=	3.291

Essentially, the income distribution patterns found for all students' families across the sectors appear to hold for both lower and upper division students. Differences between sectors are more pronounced within the lower division students and, for upper division students, the percentage of students from low income families is almost equal for each sector.

Table 3

FAMILY INCOME DISTRIBUTIONS OF FULL-TIME
LOWER DIVISION STUDENTS[1] BY INSTITUTIONAL TYPE

Annual Income	Public 2-Year	Public 4-Year	Rutgers	Independents
Less than $7,500	20.9%	16.9%	11.3%	10.1%
$ 7,500 - $11,999	21.8	21.8	16.9	11.7
$12,000 - $14,999	16.9	16.9	17.1	13.8
$15,000 - $20,999	22.0	25.4	27.8	24.0
More than $21,000	18.5	19.0	26.8	40.4
	100.1%	100.0%	99.9%	100.0%
Median Income	$13,300	$14,000	$16,000	$18,800
Approximate Mean Income	$14,058	$14,753	$16,807	$19,143

Source: N.J. SRS 1975

[1] Lower Division Students refers to freshmen and sophomores; that is, all students attending Public 2-Year colleges and freshmen and sophomore students enrolled in the other sectors.

Table 4

FAMILY INCOME DISTRIBUTIONS OF FULL-TIME
UPPER DIVISION STUDENTS[1] BY INSTITUTIONAL TYPE

Annual Income	Public 4-Year	Rutgers	Independents
Less than $7,500	13.7%	14.1%	13.0%
$ 7,500 - $11,999	21.4	18.3	15.9
$12,000 - $14,999	19.9	18.0	14.7
$15,000 - $20,999	26.8	25.9	19.6
More than $21,000	18.3	23.7	36.7
	100.1%	100.0%	99.9%
Median Income	$14,300	$15,000	$16,800
Approximate Mean Income	$15,141	$15,847	$17,847

Source: N.J. SRS 1975

[1] Upper Division Students refers to juniors and seniors at those sectors shown. Public 2-Year colleges are not included since they only enroll freshmen and sophomores.

Of more interest is a comparison between the upper and lower division full-time students, as displayed in Table 5 below.

Table 5

FAMILY INCOME DISTRIBUTION,
LOWER VS. UPPER DIVISION FULL-TIME STUDENTS[1]
BY INSTITUTIONAL TYPE

	Public 4-Year		Rutgers		Independents	
Annual Income	Lower	Upper	Lower	Upper	Lower	Upper
Less than $7,500	16.9%	13.7%	11.3%	14.1%	10.1%	13.0%
$ 7,500 - $11,999	21.8	21.4	16.9	18.3	11.7	15.9
$12,000 - $14,999	16.9	19.9	17.1	18.0	13.8	14.7
$15,000 - $20,999	25.4	26.8	27.8	25.9	24.0	19.6
More than $21,000	19.0	18.3	26.8	23.7	40.4	36.7
	100.0%	100.1%	99.9%	100.0%	100.0%	99.9%
Median Income	$14,000	$14,300	$16,000	$15,000	$18,800	$16,800
Approximate Mean Income	$14,753	$15,141	$16,807	$15,847	$19,143	$17,847

Source: N.J. SRS 1975

---

[1] Public 2-Year colleges are not included in this table since they only enroll lower division students.

While lower and upper division students in the Public 4-Year sector come from families with almost equal median incomes, lower division students enrolled in Rutgers and the Independent sectors come from families with median incomes different from upper division students. The direction of the difference is not the expected one, with upper division students coming from less affluent families than lower division students. When t-tests were applied to the data, (see Table 6) significant differences were found between the lower and upper division mean incomes of students attending Rutgers and the Independent sector colleges.

For Public 4-Year colleges, the difference between lower and upper division median income is small, with the upper division median income greater than the lower division median income. The t-test results indicate that all Public 4-Year college students are drawn from a population with the same mean income.

These findings suggest two conclusions. First, it may be inappropriate to charge upper division students higher tuition under an ability-to-pay rationale since those students are, in fact, less affluent than their lower division counterparts in both Rutgers and the Independent sectors. Possible, but untested, explanations for the income difference include a higher dropout rate between the lower and upper division for more affluent students, an influx of less affluent students from the Public 2-Year sector into the upper division of other sectors, or some combination of both.

Table 6

t-Test Results for Inter-Sectoral Comparison,
Upper and Lower Division Full-Time Students

	Public 2-Year*	Public 4-Year Lower Division	Public 4-Year Upper Division	Rutgers Lower Division	Rutgers Upper Division	Independents Lower Division	Independents Upper Division
Public 2-Year*	0	1.6336	2.9764	8.2574	-	10.9501	-
Public 4-Year Lower Division		0	.9118	5.1345	2.6475	8.5401	5.9828
Public 4-Year Upper Division			0	5.0039	2.0226	8.6438	5.8060
Rutgers Lower Division				0	3.0200	5.3086	2.3460
Rutgers Upper Division					0	7.2925	4.3949
Independents Lower Division						0	2.3659
Approximate Mean Income	$14,058	$14,753	$15,141	$16,807	$15,847	$19,143	$17,847

* Public 2-Year is considered lower division only

t Values at Various Levels of Significance

Level of Significance		t Value
.05	=	1.960
.02	=	2.326
.01	=	2.576
.001	=	3.291

Second, it is interesting to note that the median income of Public 2-Year college students is less than the median income of lower division students at Public 4-Year colleges and this, in turn, is less than the median income of upper division Public 4-Year students. If one assumes that some students enrolling in the upper division of the Public 4-Year colleges come from Public 2-Year colleges, it would appear that this transfer group is a more affluent subpopulation of all Public 2-Year college students. It is impossible to draw this conclusion without more detailed knowledge of student movement between collegiate sectors over time. This issue should be carefully investigated since it is relevant to the setting of tuition levels for terminal and transfer programs in the Public 2-Year colleges.

Income Group Representation in the Postsecondary Education System

In order to answer the third question raised initially in this report, how well different income groups are represented in the postsecondary education system, it is necessary to establish standards by which to measure representation. The staff developed a standard, based on a national norm, which defined representation as the relationship between the number of individuals in a given income group who are eligible to participate in the system and the number of those individuals actually enrolled in the system. Table 7 displays the resulting index of educational representation for the United States, a figure calculated by dividing the percentage of students' families in a given income category by the percentage of families in that same income group with children 18 to 24 years old. This rate, calculated for all United States families,

serves as a norm against which to compare similar ratios for New Jersey collegiate institutions. The numerical value of this ratio is significant in that a value less than one indicates that an income class is less than proportionately represented, while a value greater than one indicates that the income class is over-represented. Perfect equality exists when the percentage of students' families in any income class is equal to the percentage of families with college-age youth in those income classes.[1]

The values of the representation index for the United States, column (3) of Table 7, increase uniformly as income increases. The table shows the two lowest income groups to be under-represented while the middle income group is very close to perfectly represented and the two highest income groups are over-represented nationally.

Table 7

EDUCATIONAL REPRESENTATION OF UNITED STATES FAMILIES BY INCOME LEVEL

Annual Income	(1) Families with Dependents 18-24	(2) Families with Members Enrolled FT in College	(3) = (2) ÷ (1) Index of Educational Representation (National Norm)
Less than $7,500	26.0%	13.9%	.54
$ 7,500 - $11,999	21.2	17.4	.82
$12,000 - $14,999	15.3	14.9	.97
$15,000 - $20,999	17.7	21.6	1.22
More than $21,000	19.9	32.2	1.62
	100.1%	100.0%	
Median Income	$12,600	$16,000	

Source: U. S. Census 1974, Unpublished Data

[1] see Machlis, P. D., "Public Finance Quarterly," Vol. 1, No. 1, 1973, p. 41 for another application of this type of analysis.

In order to calculate the index of representation for New Jersey colleges, the percentage of students enrolled in a particular income group was divided by the national data which indicated the percentage of families with children age 18-24 in that income group. The results for all institutions in New Jersey (a New Jersey norm) and for each sector are shown in Table 8. The use of national data are justified by the similarity of New Jersey and the United States income distributions, as indicated in Graph 1 previously discussed. The N.J. norm, like the U.S. norm, rises with increasing income, although it declines somewhat in the highest income group. The values of the N.J. norm are similar and slightly higher than the U.S. norm for the two lowest income groups and the three highest income groups are all over-represented in New Jersey. Thus, N.J. institutions appear to better represent students who are eligible for college as compared to the U.S. It should be noted, however, that these figures would differ somewhat if the income distribution of all N.J. students, including the more affluent students enrolled in out-of-state institutions, had been used since the addition of this more affluent population would have reduced the percentages of less affluent students, correspondingly reducing the representation index for the lower income groups.

Looking at particular income groups, it is clear that for the low income group, under-representation is chronic and becomes more severe as one moves from a lower to a higher tuition and fees sector. Representation also declines across sectors for the lower middle income group although this group is slightly over-represented in both the Public 2-Year and the Public 4-Year sectors. Only the upper middle income group is over-represented in all sectors. Looking at individual sectors, one concludes that the Public 2-Year sector is closest to being equally representative while the Independent sector is furthest from that point.

While New Jersey institutions are serving potential students better than the U.S. average, lower income groups are still not well represented. In fact, for the lowest income group, only the Public 2-Year sector and the Public 4-Year sector are serving them better than the nation, on average, while neither Rutgers nor the Independent sector is serving them nearly as well.

Table 8

INDICES OF EDUCATIONAL REPRESENTATION FOR FULL-TIME STUDENTS ENROLLED IN NEW JERSEY INSTITUTIONS

Annual Income	Public 2-Year	Public 4-Year	Rutgers	Independents	N.J. Norm
Less than $7,500	.80*	.57	.49	.45	.55
$ 7,500 - $11,999	1.03	1.02	.83	.66	.88
$12,000 - $14,999	1.11	1.22	1.14	.91	1.12
$15,000 - $20,999	1.24	1.48	1.53	1.23	1.42
More than $21,000	.93	.94	1.28	1.94	1.26

$$* .80 = \frac{20.9}{26.0} = \frac{\text{\% of student enrollment in the Public 2-Year sector from families with less than \$7,500 in income } [1]}{\text{\% of all families, with dependents aged 18-24, earning less than \$7,500 } [2]}$$

---

[1] From SRS data.

[2] From U.S. Census data, 1974.

A Comparison of the Extent to Which Collegiate Sectors are Meeting Income-Related Enrollment Objectives

In addition to comparing institutional sectors based on an index of representation which indicates how well institutions serve potential students, one can compare institutions based only on the students actually enrolled. In this case, the percentage of students in a specific income category within a given sector was divided by the percentage of the total student population enrolled in that sector. The resulting ratio can be used to measure how well specific sectors are meeting enrollment objectives as they are related to income.

Table 9 displays data for the four sectors which have been discussed to this point. It is clear that the Public 2-Year Sector is enrolling a highly disproportionate percentage of low income students while serving a diversified population. Since these institutions were created in part to meet the needs of low income students, who traditionally have lacked access to the higher education system, the over-representation of the low income group indicates a degree of success by this sector in fulfilling its designated role. Similarly, the Independent sector is serving a distinct population, the most affluent, but without neglecting other income groups. Rutgers and the Public 4-Year sectors appear to serve populations most representative of all students enrolled in New Jersey, the former with a small bias toward the higher income groups and the latter with a small bias toward the lower income groups. These institutions, then, can be said to be properly filling their role as state institutions, serving a population representative of all college students in the state.

Table 9

INDICES OF INCOME GROUP REPRESENTATION
FOR STUDENTS IN N. J. INSTITUTIONS
BY SECTOR

Annual Income	Public 2-Year	Public 4-Year	Rutgers	Independents
Less than $7,500	1.46*	1.04	.88	.82
$ 7,500 - $11,999	1.18	1.16	.95	.75
$12,000 - $14,999	.99	1.09	1.02	.83
$15,000 - $20,999	.88	1.05	1.08	.87
More than $21,000	.74	.74	1.02	1.54

$$* 1.46 = \frac{23.7}{16.2} = \frac{\text{\% of students from families earning less than \$7,500 enrolled in Public 2-Year colleges}}{\text{\% of all students enrolled in Public 2-Year colleges}}$$

Source: N.J. SRS 1975

In summary, the staff has used income distribution data, disaggregated by collegiate sector, to determine the extent to which institutions in New Jersey are serving their potential clientele, and to measure how well certain sectors are meeting specific enrollment objectives. Several conclusions have been drawn including the following:

1. Although New Jersey's family income is above the United States' family income level, the mean income of families with children attending New Jersey institutions is below the national norm. The implication is that a disproportionate number of students from families in the upper income class are not attending schools in the state. A survey of N.J. residents attending out-of-state colleges indicates that their family income is much higher than that of students enrolled in N.J. institutions.

2. As one moves from a lower to a higher tuition sector, the median income of students' families increases. However, the association between choice to enroll in a particular sector and affluence is weak statistically.

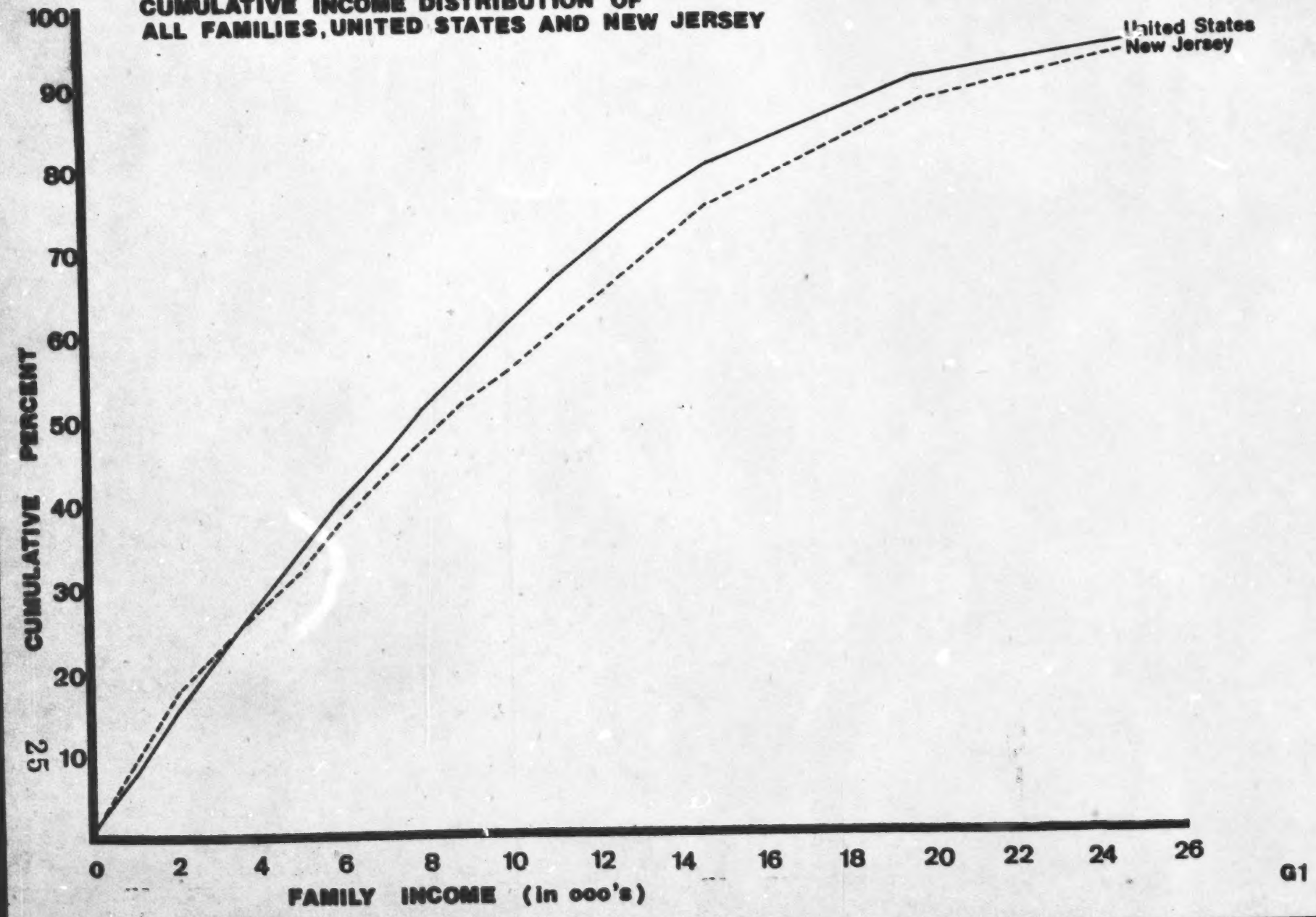
3. The mean family incomes of students in the four collegiate sectors were shown to be significantly different from each other. This implies that the individual sectors are serving different populations as defined by family income.

4. When lower and upper division mean family incomes were compared, the lower division students tended to be more affluent, except at the Public 4-Year institutions where no difference was found. This finding poses a problem for the advocates of differential tuitions who suggest that the student should pay more during his/her last two years in college.

5. Students from families earning less than $7,500 were shown to be under-represented in all N.J. collegiate sectors. Students from families earning between $15,000 and $20,999 were over-represented in all sectors. Despite relatively low tuition and fee charges, then, ability to pay appears to have a bearing on student participation in the N.J. collegiate system.

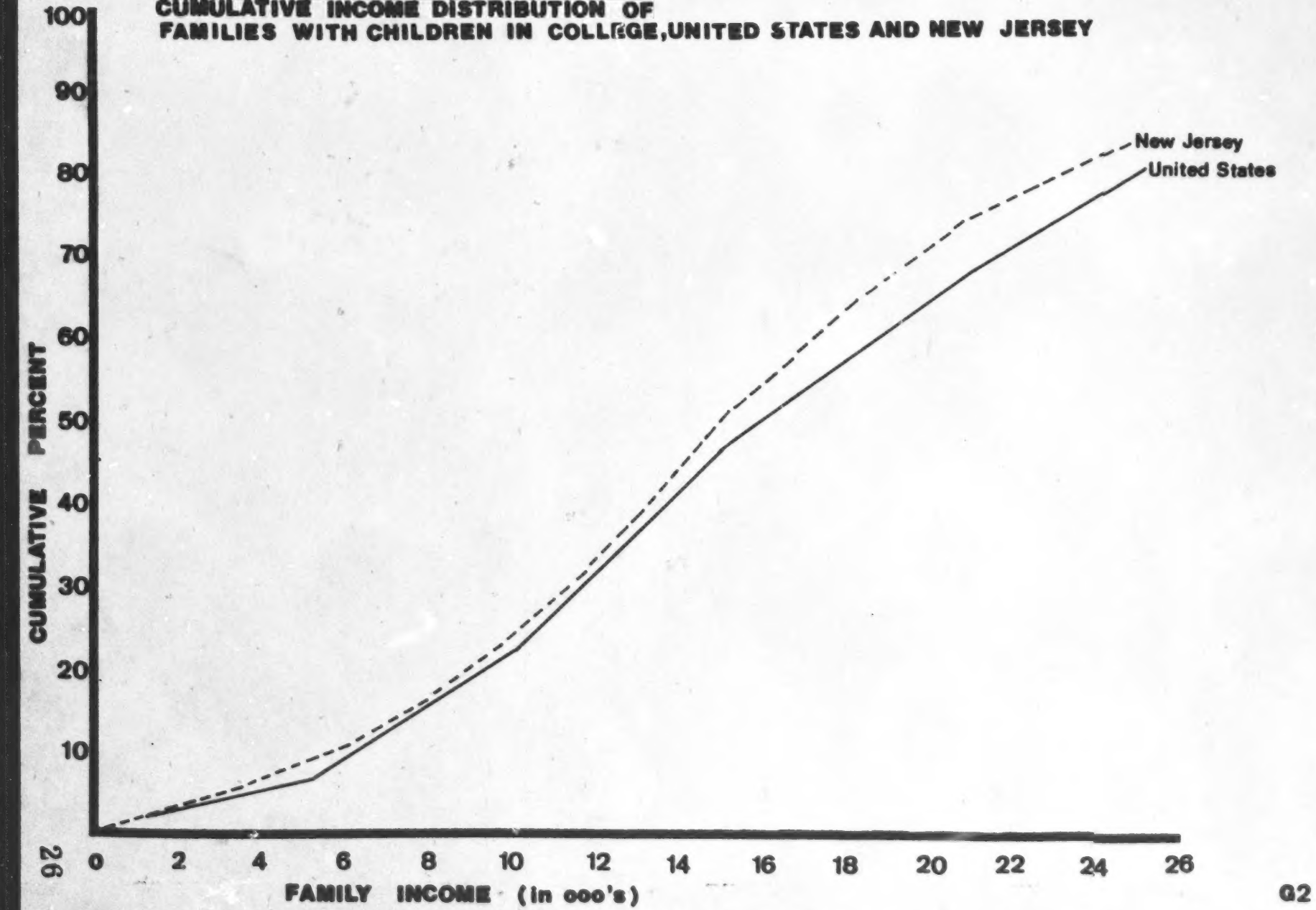
6. Based solely on the New Jersey student population, Public 2-Year institutions enroll a disproportionate number of students from the lowest income category, while the Independents enroll a disproportionate number of students from families earning over $21,000. One concludes that the Public 2-Year institutions are fulfilling the goal of serving persons who might otherwise have difficulty participating in the system. Rutgers and the Public 4-Year sector are serving a population representative of all college students in New Jersey.

GRAPH 1


CUMULATIVE INCOME DISTRIBUTION OF
ALL FAMILIES, UNITED STATES AND NEW JERSEY
United States
New Jersey
CUMULATIVE PERCENT
100
90
80
70
60
50
40
30
20
10
0
2
4
6
8
10
12
14
16
18
20
22
24
26
FAMILY INCOME (in ooo's)
G1

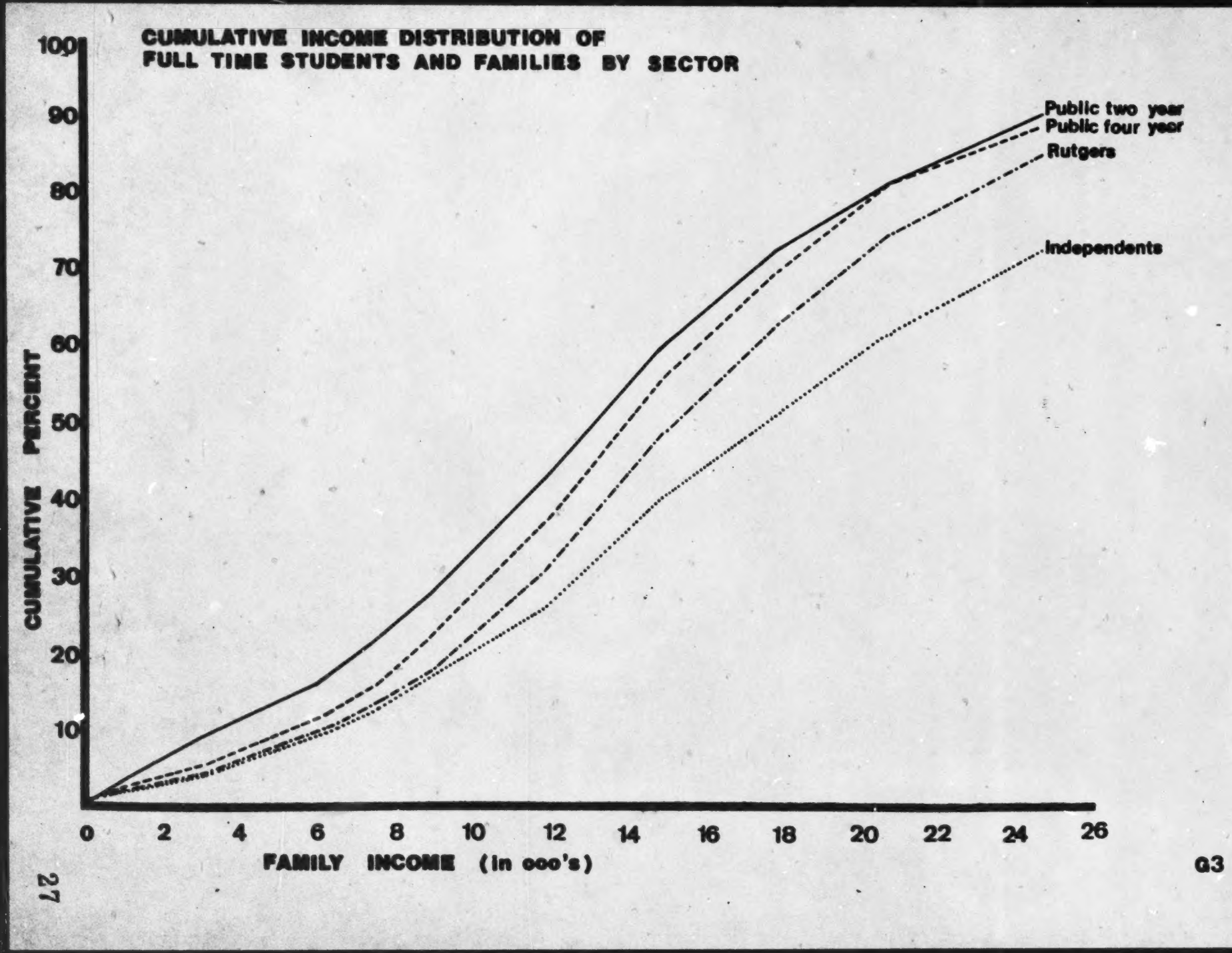
GRAPH 2

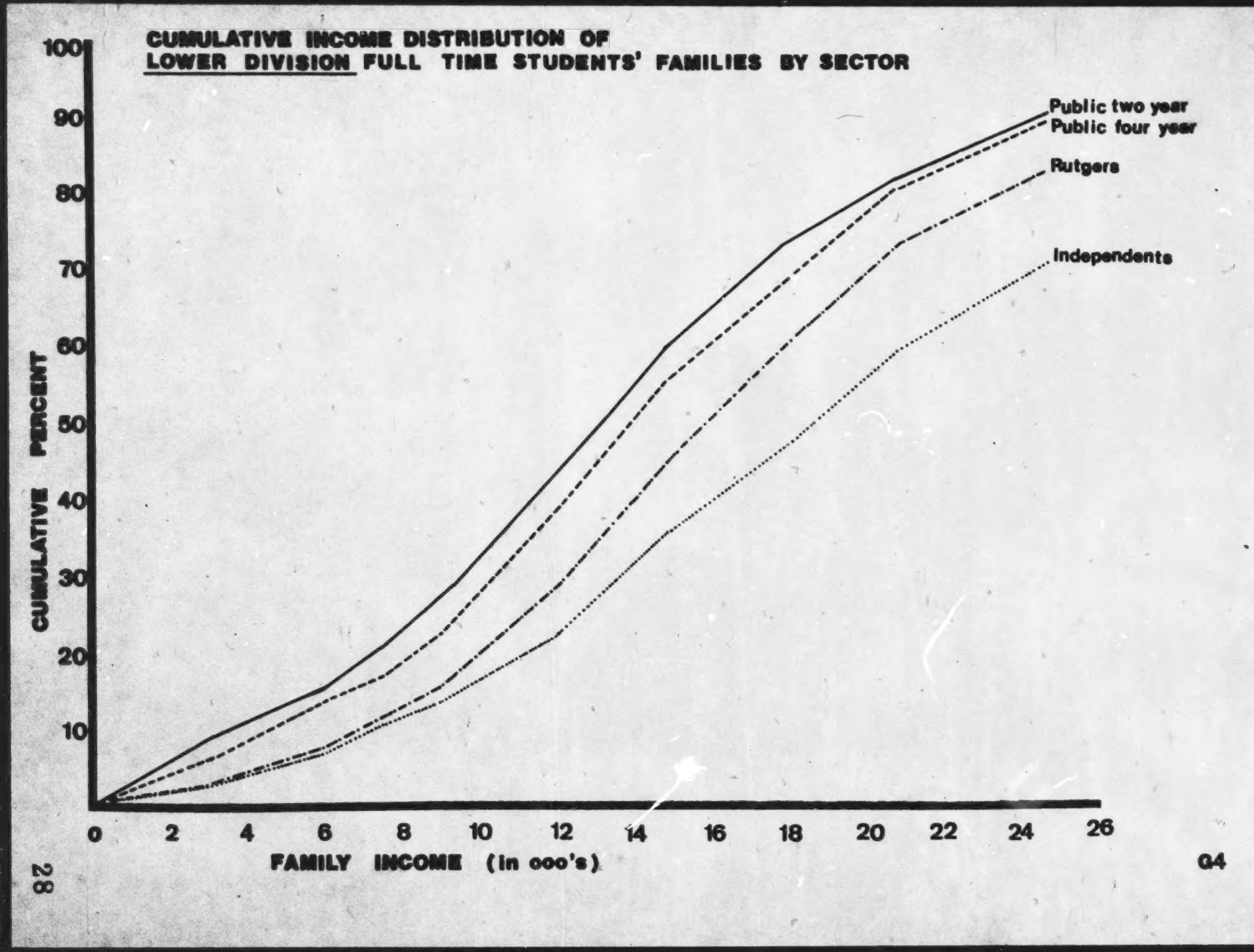
CUMULATIVE INCOME DISTRIBUTION OF
FAMILIES WITH CHILDREN IN COLLEGE, UNITED STATES AND NEW JERSEY

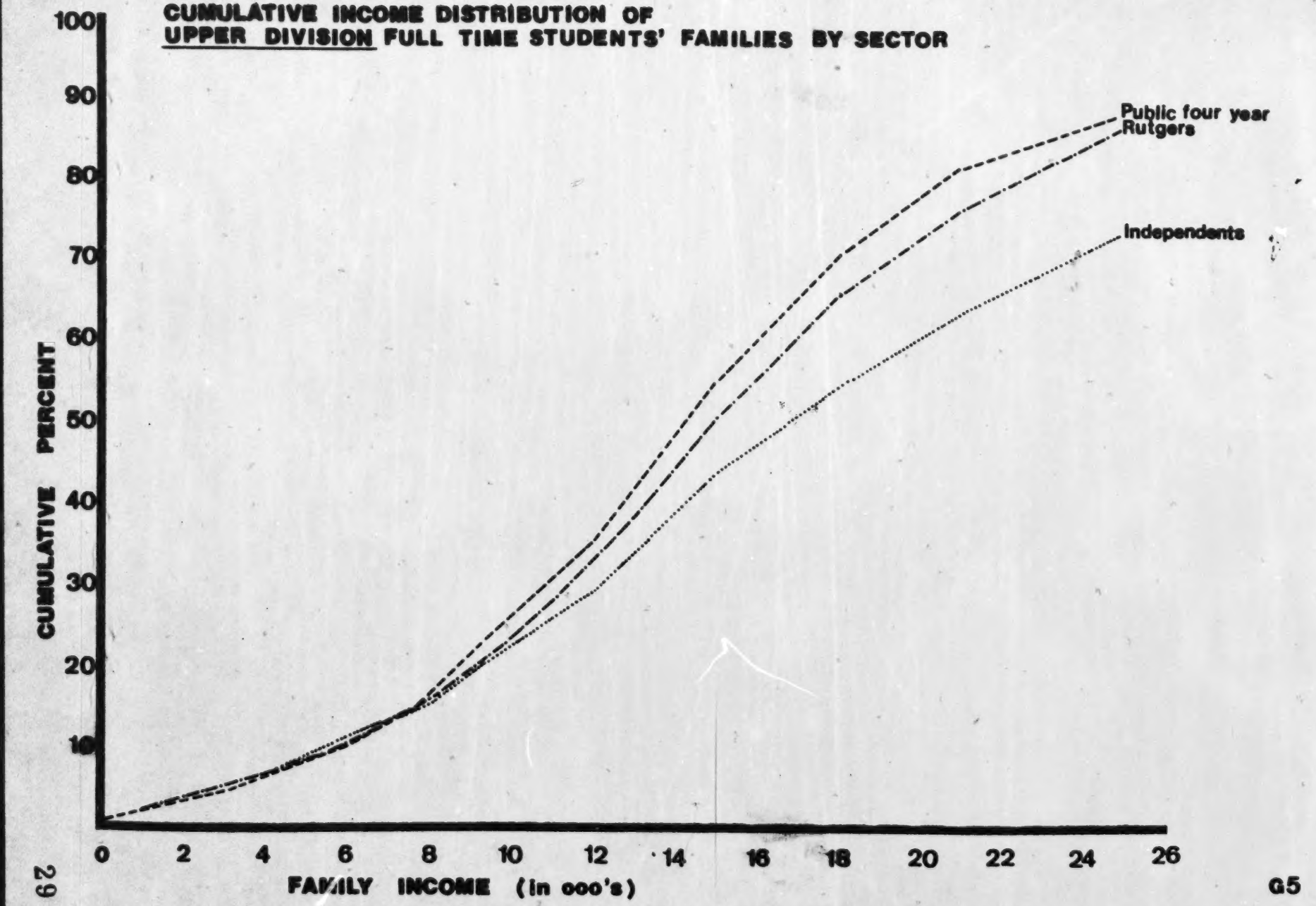


92

92


CUMULATIVE INCOME DISTRIBUTION OF
FULL TIME STUDENTS AND FAMILIES BY SECTOR
Public two year
Public four year
Rutgers
Independents
CUMULATIVE PERCENT
100
90
80
70
60
50
40
30
20
10
0
2
4
6
8
10
12
14
16
18
20
22
24
26
FAMILY INCOME (in ooo's)
G3
27


CUMULATIVE INCOME DISTRIBUTION OF
LOWER DIVISION FULL TIME STUDENTS' FAMILIES BY SECTOR
Public two year
Public four year
Rutgers
Independents
CUMULATIVE PERCENT
100
90
80
70
60
50
40
30
20
10
0
2
4
6
8
10
12
14
16
18
20
22
24
26
FAMILY INCOME (in ooo's)


CUMULATIVE INCOME DISTRIBUTION OF
UPPER DIVISION FULL TIME STUDENTS' FAMILIES BY SECTOR
Public four year
Rutgers
Independents
CUMULATIVE PERCENT
100
90
80
70
60
50
40
30
20
10
0
2
4
6
8
10
12
14
16
18
20
22
24
26
FAMILY INCOME (in ooo's)